



IFWO

RAW SEQUENCE LISTING                      DATE: 08/27/2004  
 PATENT APPLICATION: US/10/687,060        TIME: 11:52:32

Input Set : N:\Crf3\RULE60\10687060.raw  
 Output Set: N:\CRF4\08272004\J687060.raw

1 <110> APPLICANT: Bruck, Claudine  
 2        Godart, Stephane Andre Georges  
 3        Marc-Hand, Martine  
 4 <120> TITLE OF INVENTION: Fusion Proteins Comprising HIV-1 TAT  
 5        and/or Nef Proteins  
 6 <130> FILE REFERENCE: B45110  
 7 <140> CURRENT APPLICATION NUMBER: US/10/687,060  
 8 <141> CURRENT FILING DATE: 2003-10-16  
 9 <150> PRIOR APPLICATION NUMBER: US/09/509,239  
 10 <151> PRIOR FILING DATE: 2000-03-23  
 11 <150> PRIOR APPLICATION NUMBER: PCT/EP98/06040  
 12 <151> PRIOR FILING DATE: 1998-09-17  
 13 <150> PRIOR APPLICATION NUMBER: GB 9720585.0  
 14 <151> PRIOR FILING DATE: 1997-09-26  
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 16 <170> SOFTWARE: FastSEQ for Windows Version 3.0  
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 19 <211> LENGTH: 23  
 20 <212> TYPE: DNA  
 21 <213> ORGANISM: Pichia pastoris  
 22 <400> SEQUENCE: 1  
 23        atcgtccatg ggtggcaagt ggt 23  
 25 <210> SEQ ID NO: 2  
 26 <211> LENGTH: 23  
 27 <212> TYPE: DNA  
 28 <213> ORGANISM: Pichia pastoris  
 29 <400> SEQUENCE: 2  
 30        cggctactag tgcagttctt gaa 23  
 32 <210> SEQ ID NO: 3  
 33 <211> LENGTH: 24  
 34 <212> TYPE: DNA  
 35 <213> ORGANISM: Pichia pastoris  
 36 <400> SEQUENCE: 3  
 37        atcgtactag tgagccagta gatc 24  
 39 <210> SEQ ID NO: 4  
 40 <211> LENGTH: 24  
 41 <212> TYPE: DNA  
 42 <213> ORGANISM: Pichia pastoris  
 43 <400> SEQUENCE: 4  
 44        cggctactag ttctcttcgg gcct 24  
 46 <210> SEQ ID NO: 5  
 47 <211> LENGTH: 23  
 48 <212> TYPE: DNA

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49 <213> ORGANISM: Pichia pastoris
50 <400> SEQUENCE: 5
51   atcgatccatg gagccagtag atc                                     23
53 <210> SEQ ID NO: 6
54 <211> LENGTH: 441
55 <212> TYPE: DNA
56 <213> ORGANISM: Pichia pastoris
57 <400> SEQUENCE: 6
58   atggatccaa aaacttttagc cttttcttta ttagcagctg gcgtactagc aggttgtagc      60
59   agccattcat caaatatggc gaatacccaa atgaaatcag acaaaatcat tattgctcac      120
60   cgtgggtgcta gcggttattt accagagcat acgttagaat ctaaagcact tgcttttgca      180
61   caacaggctg attatttaga gcaagattta gcaatgacta aggatggctg tttagtgggt      240
62   attcacgata acttttttaga tggtttgact gatgttgcca aaaaattccc acatcgtcac      300
63   cgtaaagatg gccgttacta tgtcatcgac ttacacctaa aagaaattca aagtttagaa      360
64   atgacagaaa actttgaaac catggccacg tgtgatcaga gctcaactag tggccaccat      420
65   caccatcacc attaatctag a                                     441
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68 <211> LENGTH: 144
69 <212> TYPE: PRT
70 <213> ORGANISM: Pichia pastoris
71 <400> SEQUENCE: 7
72   Met Asp Pro Lys Thr Leu Ala Leu Ser Leu Leu Ala Ala Gly Val Leu
73   1          5          10          15
74   Ala Gly Cys Ser Ser His Ser Ser Asn Met Ala Asn Thr Gln Met Lys
75   20          25          30
76   Ser Asp Lys Ile Ile Ile Ala His Arg Gly Ala Ser Gly Tyr Leu Pro
77   35          40          45
78   Glu His Thr Leu Glu Ser Lys Ala Leu Ala Phe Ala Gln Gln Ala Asp
79   50          55          60
80   Tyr Leu Glu Gln Asp Leu Ala Met Thr Lys Asp Gly Arg Leu Val Val
81   65          70          75          80
82   Ile His Asp His Phe Leu Asp Gly Leu Thr Asp Val Ala Lys Lys Phe
83   85          90          95
84   Pro His Arg His Arg Lys Asp Gly Arg Tyr Tyr Val Ile Asp Phe Thr
85   100         105         110
86   Leu Lys Glu Ile Gln Ser Leu Glu Met Thr Glu Asn Phe Glu Thr Met
87   115         120         125
88   Ala Thr Cys Asp Gln Ser Ser Thr Ser Gly His His His His His His
89   130         135         140
91 <210> SEQ ID NO: 8
92 <211> LENGTH: 648
93 <212> TYPE: DNA
94 <213> ORGANISM: Pichia pastoris
95 <400> SEQUENCE: 8
96   atgggtggca agtgggtcaaa aagtagtggtg gttggatggc ctactgtaag ggaaagaatg      60
97   agacgagctg agccagcagc agatgggggtg ggagcagcat ctcgagacct ggaaaaacat      120
98   ggagcaatca caagtagcaa tacagcagct accaatgctg cttgtgcctg gctagaagca      180
99   caagaggagg aggaggtggg ttttccagtc acacctcagg tacctttaag accaatgact      240
100  tacaaggcag ctgtagatct tagccacttt ttaaaagaaa agggggggact ggaaggggcta      300

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101      attcactccc aacgaagaca agatatacctt gatctgtgga tctaccacac acaaggctac      360
102      ttccctgatt ggcagaacta cacaccaggg ccaggggtca gatataccact gaccttttga      420
103      tgggtgtaca agctagtacc agttgagcca gataaggtag aagaggccaa taaaggagag      480
104      aacaccagct tgttacaccc tgtgagcctg catggaatgg atgaccctga gagagaagtg      540
105      ttagagtggg ggtttgacag ccgcctagca tttcatcagc tggcccgaga gctgcatccg      600
106      gagtacttca agaactgcac tagtggccac catcaccatc accattaa      648

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108 &lt;210&gt; SEQ ID NO: 9

109 &lt;211&gt; LENGTH: 215

110 &lt;212&gt; TYPE: PRT

111 &lt;213&gt; ORGANISM: Pichia pastoris

112 &lt;400&gt; SEQUENCE: 9

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113      Met Gly Gly Lys Trp Ser Lys Ser Ser Val Val Gly Trp Pro Thr Val
114      1          5          10          15
115      Arg Glu Arg Met Arg Arg Ala Glu Pro Ala Ala Asp Gly Val Gly Ala
116      20          25          30
117      Ala Ser Arg Asp Leu Glu Lys His Gly Ala Ile Thr Ser Ser Asn Thr
118      35          40          45
119      Ala Ala Thr Asn Ala Ala Cys Ala Trp Leu Glu Ala Gln Glu Glu Glu
120      50          55          60
121      Glu Val Gly Phe Pro Val Thr Pro Gln Val Pro Leu Arg Pro Met Thr
122      65          70          75          80
123      Tyr Lys Ala Ala Val Asp Leu Ser His Phe Leu Lys Glu Lys Gly Gly
124      85          90          95
125      Leu Glu Gly Leu Ile His Ser Gln Arg Arg Gln Asp Ile Leu Asp Leu
126      100         105         110
127      Trp Ile Tyr His Thr Gln Gly Tyr Phe Pro Asp Trp Gln Asn Tyr Thr
128      115         120         125
129      Pro Gly Pro Gly Val Arg Tyr Pro Leu Thr Phe Gly Trp Cys Tyr Lys
130      130         135         140
131      Leu Val Pro Val Glu Pro Asp Lys Val Glu Glu Ala Asn Lys Gly Glu
132      145         150         155         160
133      Asn Thr Ser Leu Leu His Pro Val Ser Leu His Gly Met Asp Asp Pro
134      165         170         175
135      Glu Arg Glu Val Leu Glu Trp Arg Phe Asp Ser Arg Leu Ala Phe His
136      180         185         190
137      His Val Ala Arg Glu Leu His Pro Glu Tyr Phe Lys Asn Cys Thr Ser
138      195         200         205
139      Gly His His His His His His
140      210         215

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142 &lt;210&gt; SEQ ID NO: 10

143 &lt;211&gt; LENGTH: 288

144 &lt;212&gt; TYPE: DNA

145 &lt;213&gt; ORGANISM: Pichia pastoris

146 &lt;400&gt; SEQUENCE: 10

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147      atggagccag tagatcctag actagagccc tggaagcatc caggaagtca gcctaaaact      60
148      gcttgtacca attgctattg taaaaagtgt tgctttcatt gccaaagttg tttcataaca      120
149      aaagccttag gcatctccta tggcaggaag aagcggagac agcgacgaag acctcctcaa      180
150      ggcagtcaga ctcacaaagt ttctctatca aagcaaccga cctcccaatc ccgagggggac      240
151      ccgacaggcc cgaaggaaac tagtggccac catcaccatc accattaa      288

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153 <210> SEQ ID NO: 11
154 <211> LENGTH: 95
155 <212> TYPE: PRT
156 <213> ORGANISM: Pichia pastoris
157 <400> SEQUENCE: 11
158     Met Glu Pro Val Asp Pro Arg Leu Glu Pro Trp Lys His Pro Gly Ser
159         1           5           10           15
160     Gln Pro Lys Thr Ala Cys Thr Asn Cys Tyr Cys Lys Lys Cys Cys Phe
161         20           25           30
162     His Cys Gln Val Cys Phe Ile Thr Lys Ala Leu Gly Ile Ser Tyr Gly
163         35           40           45
164     Arg Lys Lys Arg Arg Gln Arg Arg Arg Pro Pro Gln Gly Ser Gln Thr
165         50           55           60
166     His Gln Val Ser Leu Ser Lys Gln Pro Thr Ser Gln Ser Arg Gly Asp
167         65           70           75           80
168     Pro Thr Gly Pro Lys Glu Thr Ser Gly His His His His His
169         85           90           95

171 <210> SEQ ID NO: 12
172 <211> LENGTH: 909
173 <212> TYPE: DNA
174 <213> ORGANISM: Pichia pastoris
175 <400> SEQUENCE: 12
176     atgggtggca agtgggtcaaa aagtagtggtg gttggatggc ctactgtaag ggaaagaatg      60
177     agacgagctg agccagcagc agatgggggtg ggagcagcat ctcgagacct ggaaaaacat      120
178     ggagcaatca caagtagcaa tacagcagct accaatgctg cttgtgcctg gctagaagca      180
179     caagaggagg aggaggtggg ttttccagtc acacctcagg tacctttaag accaatgact      240
180     tacaaggcag ctgtagatct tagccacttt ttaaaagaaa aggggggact ggaagggcta      300
181     attcactccc aacgaagaca agatatcctt gatctgtgga tctaccacac acaaggctac      360
182     ttccctgatt ggcagaacta cacaccaggg ccagggggtca gatatccact gacctttgga      420
183     tgggtgctaca agctagtacc agttgagcca gataaggtag aagaggccaa taaaggagag      480
184     aacaccagct tgttacaccc tgtgagcctg catggaatgg atgacctga gagagaagtg      540
185     ttagagtgga ggtttgacag ccgcctagca ttcatcacg tggcccgaga gctgcatccg      600
186     gagtacttca agaactgcac tagtgagcca gtagatccta gactagagcc ctggaagcat      660
187     ccaggaagtc agcctaaaac tgcttgtagc aattgctatt gtaaaaagtg ttgctttcat      720
188     tgccaagttt gtttcataac aaaagcctta ggcattctct atggcaggaa gaagcggaga      780
189     cagcgacgaa gacctctca aggcagtcag actcatcaag tttctctatc aaagcaaccc      840
190     acctcccaat cccgagggga cccgacaggc ccgaaggaaa ctagtggcca ccatcaccat      900
191     caccattaa
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193 <210> SEQ ID NO: 13
194 <211> LENGTH: 302
195 <212> TYPE: PRT
196 <213> ORGANISM: Pichia pastoris
197 <400> SEQUENCE: 13
198     Met Gly Gly Lys Trp Ser Lys Ser Ser Val Val Gly Trp Pro Thr Val
199         1           5           10           15
200     Arg Glu Arg Met Arg Arg Ala Glu Pro Ala Ala Asp Gly Val Gly Ala
201         20           25           30
202     Ala Ser Arg Asp Leu Glu Lys His Gly Ala Ile Thr Ser Ser Asn Thr
203         35           40           45

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204   Ala Ala Thr Asn Ala Ala Cys Ala Trp Leu Glu Ala Gln Glu Glu Glu
205           50                      55                      60
206   Glu Val Gly Phe Pro Val Thr Pro Gln Val Pro Leu Arg Pro Met Thr
207   65                      70                      75                      80
208   Tyr Lys Ala Ala Val Asp Leu Ser His Phe Leu Lys Glu Lys Gly Gly
209           85                      90                      95
210   Leu Glu Gly Leu Ile His Ser Gln Arg Arg Gln Asp Ile Leu Asp Leu
211           100                     105                     110
212   Trp Ile Tyr His Thr Gln Gly Tyr Phe Pro Asp Trp Gln Asn Tyr Thr
213           115                     120                     125
214   Pro Gly Pro Gly Val Arg Tyr Pro Leu Thr Phe Gly Trp Cys Tyr Lys
215           130                     135                     140
216   Leu Val Pro Val Glu Pro Asp Lys Val Glu Glu Ala Asn Lys Gly Glu
217   145                     150                     155                     160
218   Asn Thr Ser Leu Leu His Pro Val Ser Leu His Gly Met Asp Asp Pro
219           165                     170                     175
220   Glu Arg Glu Val Leu Glu Trp Arg Phe Asp Ser Arg Leu Ala Phe His
221           180                     185                     190
222   His Val Ala Arg Glu Leu His Pro Glu Tyr Phe Lys Asn Cys Thr Ser
223           195                     200                     205
224   Glu Pro Val Asp Pro Arg Leu Glu Pro Trp Lys His Pro Gly Ser Gln
225           210                     215                     220
226   Pro Lys Thr Ala Cys Thr Asn Cys Tyr Cys Lys Lys Cys Cys Phe His
227   225                     230                     235                     240
228   Cys Gln Val Cys Phe Ile Thr Lys Ala Leu Gly Ile Ser Tyr Gly Arg
229           245                     250                     255
230   Lys Lys Arg Arg Gln Arg Arg Arg Pro Pro Gln Gly Ser Gln Thr His
231           260                     265                     270
232   Gln Val Ser Leu Ser Lys Gln Pro Thr Ser Gln Ser Arg Gly Asp Pro
233           275                     280                     285
234   Thr Gly Pro Lys Glu Thr Ser Gly His His His His His His
235           290                     295                     300

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237 &lt;210&gt; SEQ ID NO: 14

238 &lt;211&gt; LENGTH: 1029

239 &lt;212&gt; TYPE: DNA

240 &lt;213&gt; ORGANISM: Pichia pastoris

241 &lt;400&gt; SEQUENCE: 14

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242   atggatccaa aaacttttagc cctttcttta ttagcagctg gcgtactagc aggttgtagc      60
243   agccattcat caaatatggc gaatacccaa atgaaatcag acaaaatcat tattgctcac      120
244   cgtggtgcta gcggttattt accagagcat acgttagaat ctaaagcact tgcttttgca      180
245   caacaggctg attatttaga gcaagattta gcaatgacta aggatggtcg tttagtgggt      240
246   attcacgata acttttttaga tggcttgact gatgttgcca aaaaattccc acatcgatcat      300
247   cgtaaagatg gccgttacta tgtcatcgac tttaccttaa aagaaattca aagtttagaa      360
248   atgacagaaa actttgaaac catgggtggc aagtggtaa aaagtagtgt ggttgatgg      420
249   cctactgtaa gggaaagaat gagacgagct gagccagcag cagatggggt gggagcagca      480
250   tctcgagacc tggaaaaaca tggagcaatc acaagtagca atacagcagc taccaatgct      540
251   gcttgtgcct ggctagaagc acaagaggag gaggagggtg gttttccagt cacacctcag      600
252   gtacctttta gaccaatgac ttacaaggca gctgtagatc ttagccactt tttaaaagaa      660
253   aagggggggc tggaagggct aattcactcc caacgaagac aagatatact tgatctgtgg      720

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The rules require that a line not exceed 72 characters in length. This includes spaces.

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Seq#:2; Line(s) 30  
Seq#:3; Line(s) 37  
Seq#:4; Line(s) 44  
Seq#:5; Line(s) 51  
Seq#:6; Line(s) 58,59,60,61,62,63,64,65  
Seq#:8; Line(s) 96,97,98,99,100,101,102,103,104,105,106  
Seq#:10; Line(s) 147,148,149,150,151  
Seq#:12; Line(s) 176,177,178,179,180,181,182,183,184,185,186,187,188,189  
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Seq#:14; Line(s) 242,243,244,245,246,247,248,249,250,251,252,253,254,255  
Seq#:14; Line(s) 256,257,258,259  
Seq#:16; Line(s) 313,314,315,316,317,318,319,320,321,322,323,324,325,326  
Seq#:16; Line(s) 327,328,329,330,331,332,333,334  
Seq#:18; Line(s) 399,400,401,402,403,404,405,406,407,408,409,410,411,412  
Seq#:18; Line(s) 413,414,415  
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Seq#:20; Line(s) 484,485,486,487,488,489,490  
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Seq#:26; Line(s) 650

**VERIFICATION SUMMARY**

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